Using GIS Data &Tools to Support Source Water Protection Targeting Resources Through Program Integration
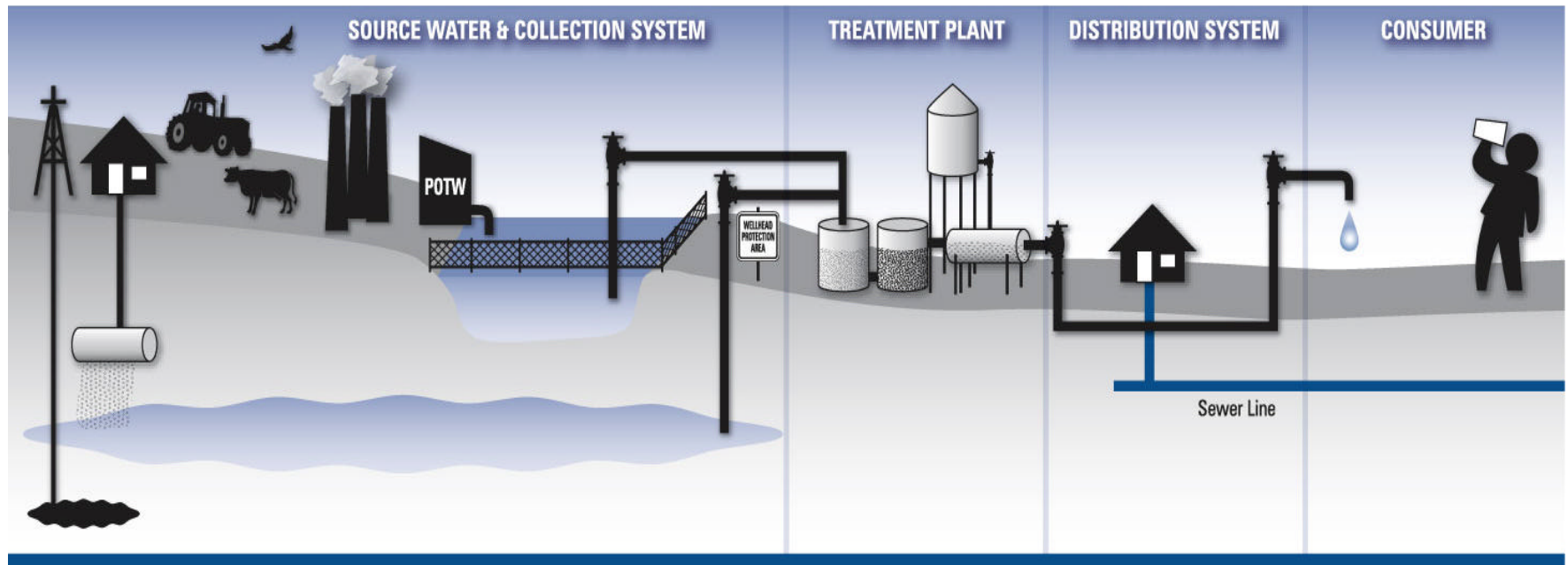
William R. Diamond, Director, EPA Drinking Water Protection Division, Office of Ground Water and Drinking Water
National Source Water Protection Conference, Session A3
June 2, 2003, 1:30 – 3:00 p.m.
Washington, D.C.

How Does GIS Support EPA SWP Role?

- <u>Program Integration</u> – Builds CWA/SDWA program integration through common geographic reference point

- <u>Targeting of Resources</u> – Facilitates priority use of federal resources through co-location of regulated entities in SWAs

- <u>Collaboration with States and Locals</u> – Provides geographic basis to pursue joint initiatives with States and locals
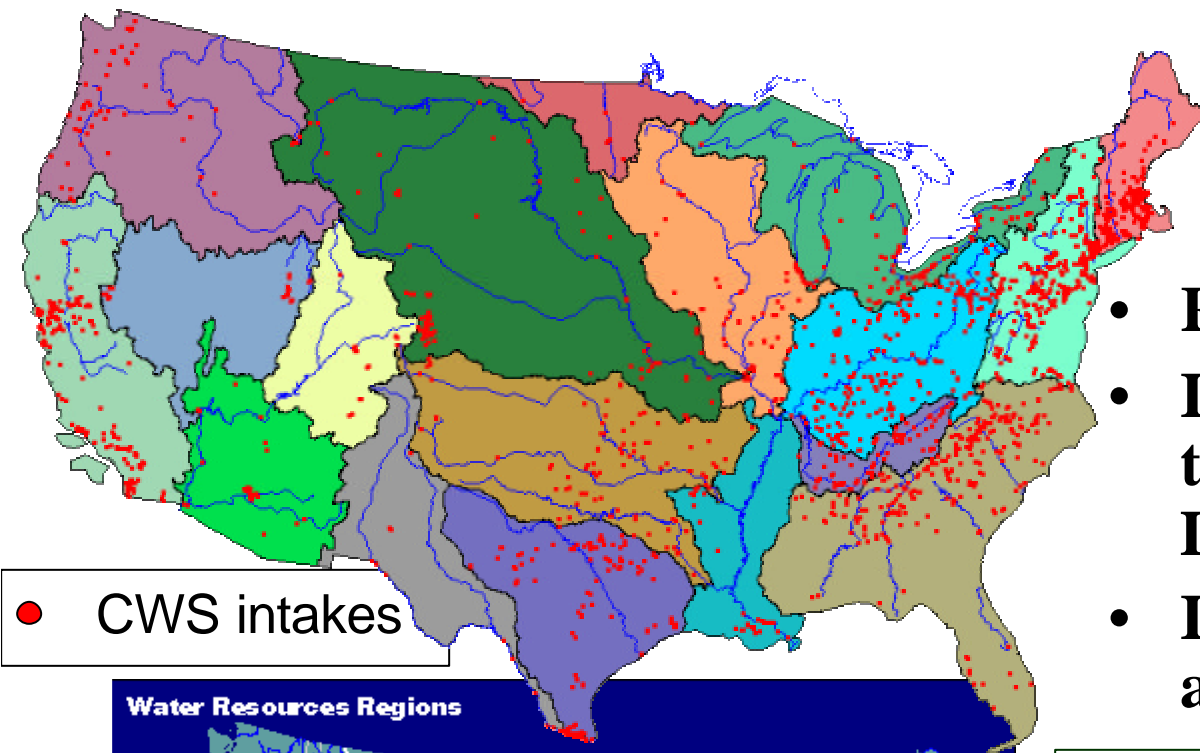
What GIS Data and Tools Are Available to EPA?

- <u>Office of Water GIS Platform</u> -- Water programs have access to common GIS data and aps through WATERS

- <u>Access to Other EPA Data</u> – Other GIS coverages and program data available from Envirofacts

- <u>State Locational Data In SDWIS</u> – States are source of well/intake lat/long and SWA data, linked to PWS inventory

- <u>Intake Data Georeferenced to NHD</u> – All OW data indexed to USGS stream reach network.
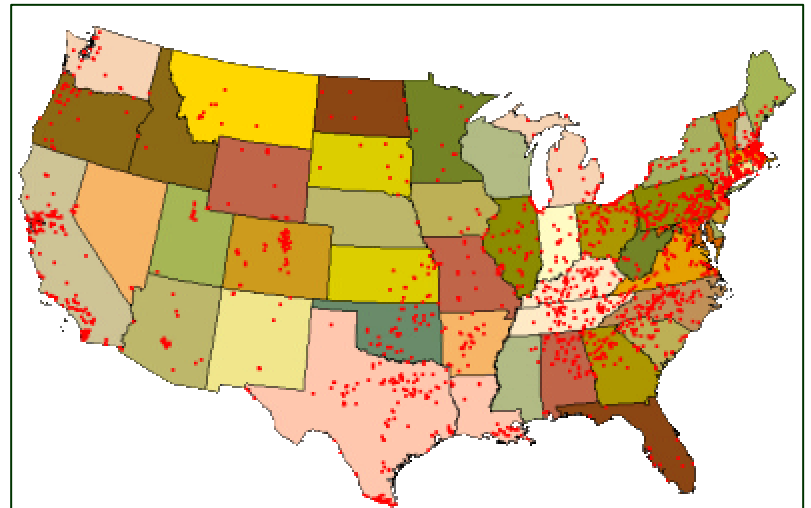
CWS Intakes

CWS intakes

- **Roughly 7000 intakes**

- **Initial locations verified to 6 seconds using DeLORME Data**
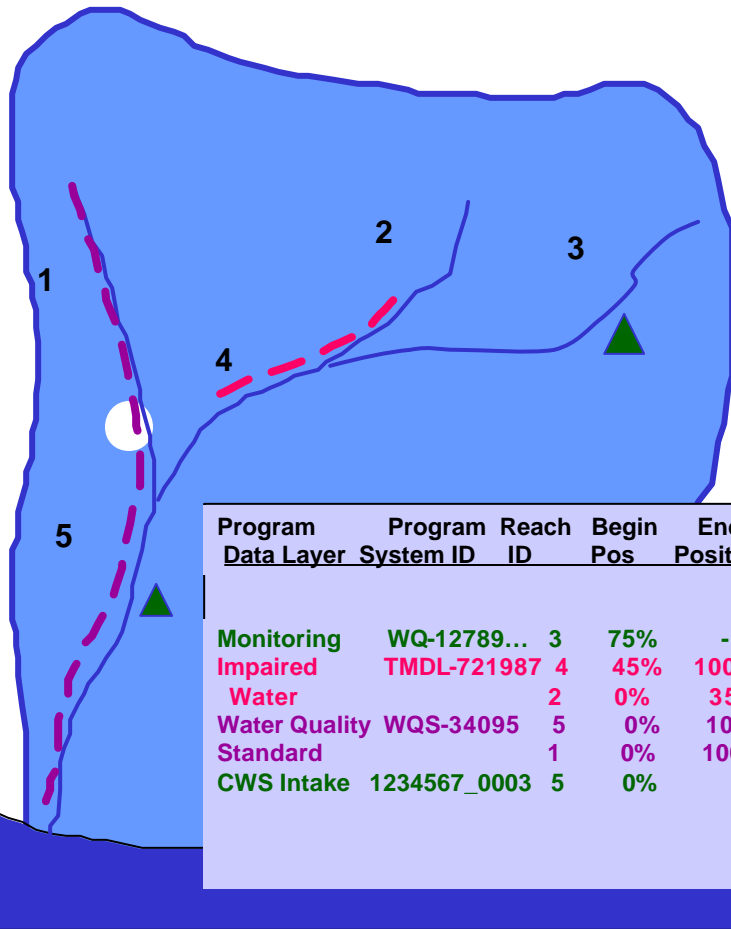
- **Includes source and associated river names**

Water Resources Regions

Indexing to
National Hydrography Dataset (NHD)

Watershed 02050701

Rich cartographic feature content for making <u>maps</u>

A <u>stream addressing system</u> for linking water-related information to the national drainage network

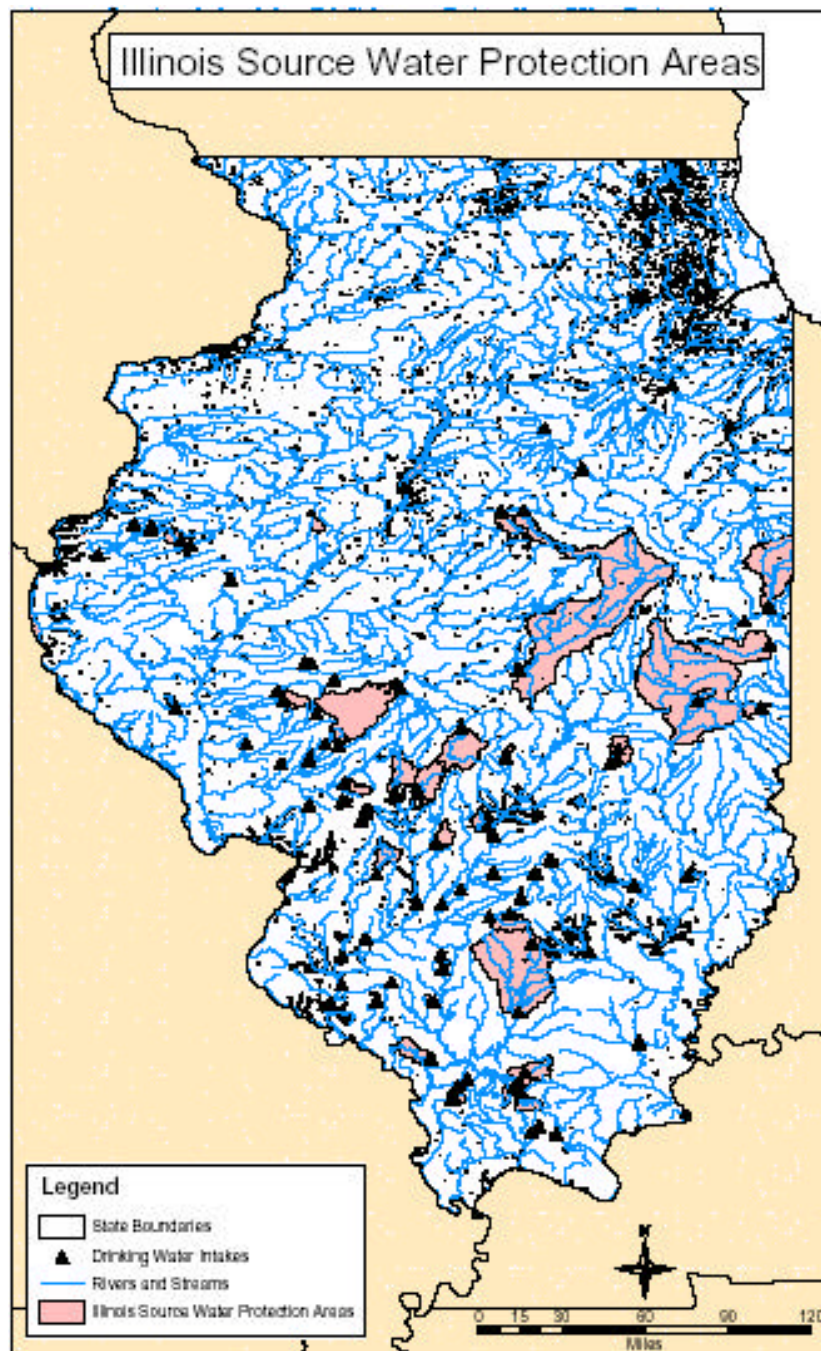**Over <u>2,200</u> 8-digit HUCs**

<u>3 million</u> linear reaches

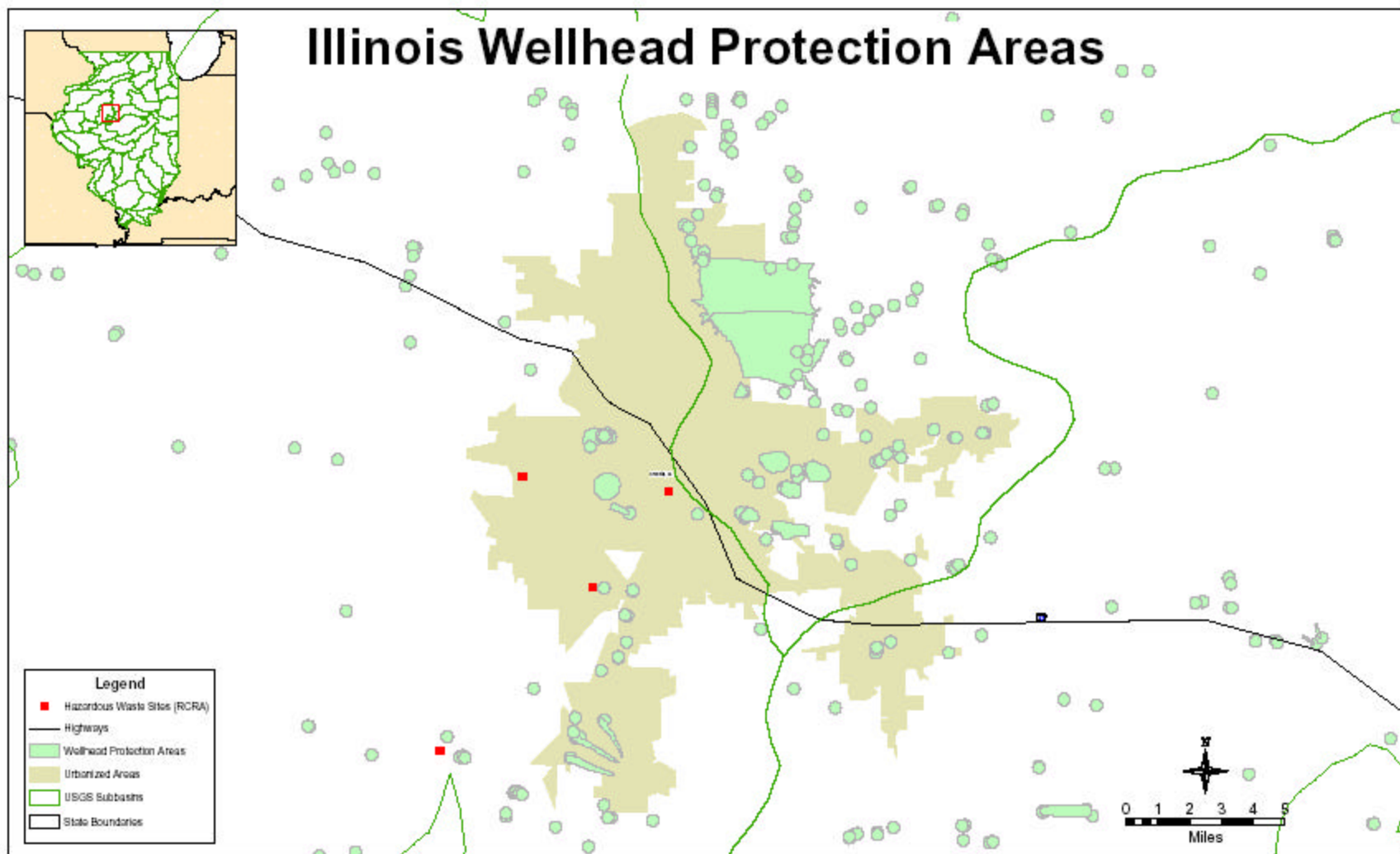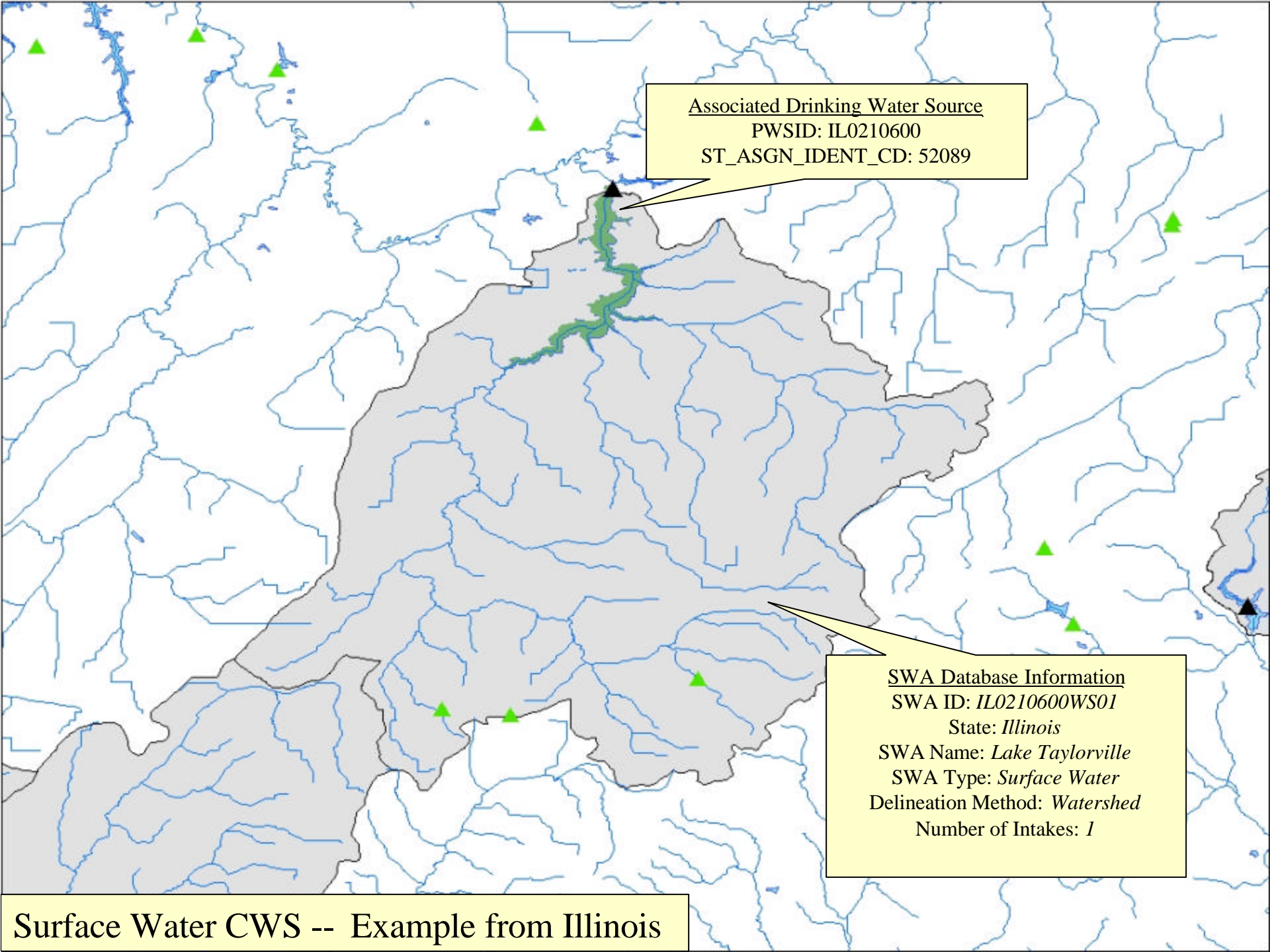**Upstream/downstream <u>modeling</u> along the drainage network**

Data available at http://nhd.usgs.gov

Program Data Layer	Program System ID	Reach ID	Begin Pos	End Position
Monitoring	WQ-12789…	3	75%	-
Impaired	TMDL-721987	4	45%	100%
Water		2	0%	35%
Water Quality	WQS-34095	5	0%	100%
Standard		1	0%	100%
CWS Intake	1234567_0003	5	0%	

How are We Using GIS
An Example

Illinois Source Water Protection Areas

Legend

- ▢ State Boundaries
- ▲ Drinking Water Intakes
- — Rivers and Streams
- ▦ Illinois Source Water Protection Areas

0 15 30   60   90   120
Miles

Illinois Wellhead Protection Areas

Legend

- ■ Hazardous Waste Sites (RCRA)
- — Highways
- Wellhead Protection Areas
- Urbanized Areas
- USGS Subbasins
- State Boundaries

0 1 2 3 4 5
Miles
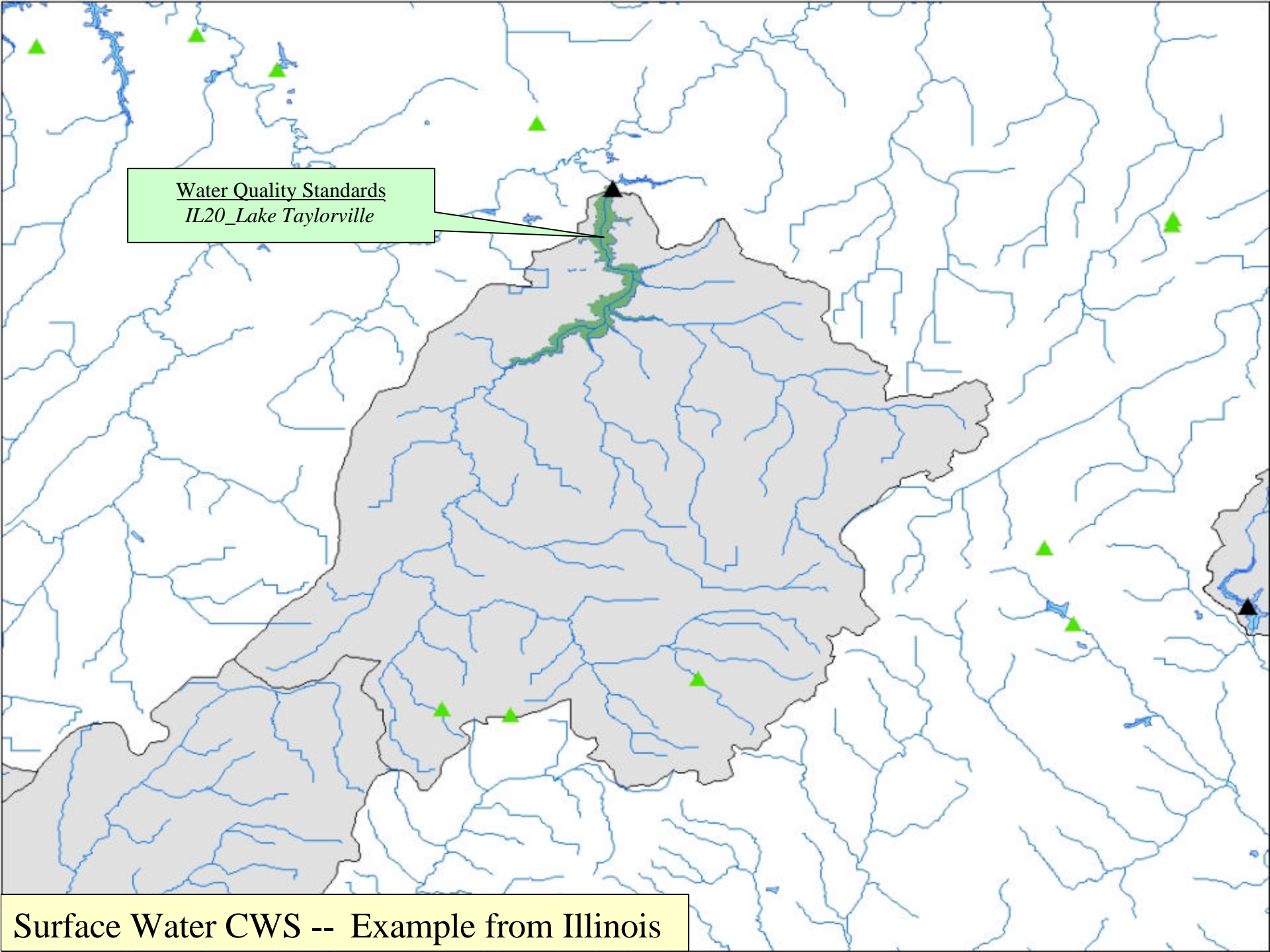
Associated Drinking Water Source
PWSID: IL0210600
ST_ASGN_IDENT_CD: 52089

SWA Database Information
SWA ID: *IL0210600WS01*
State: *Illinois*
SWA Name: *Lake Taylorville*
SWA Type: *Surface Water*
Delineation Method: *Watershed*
Number of Intakes: *1*

Surface Water CWS -- Example from Illinois

Water Quality Standards
IL20_Lake Taylorville
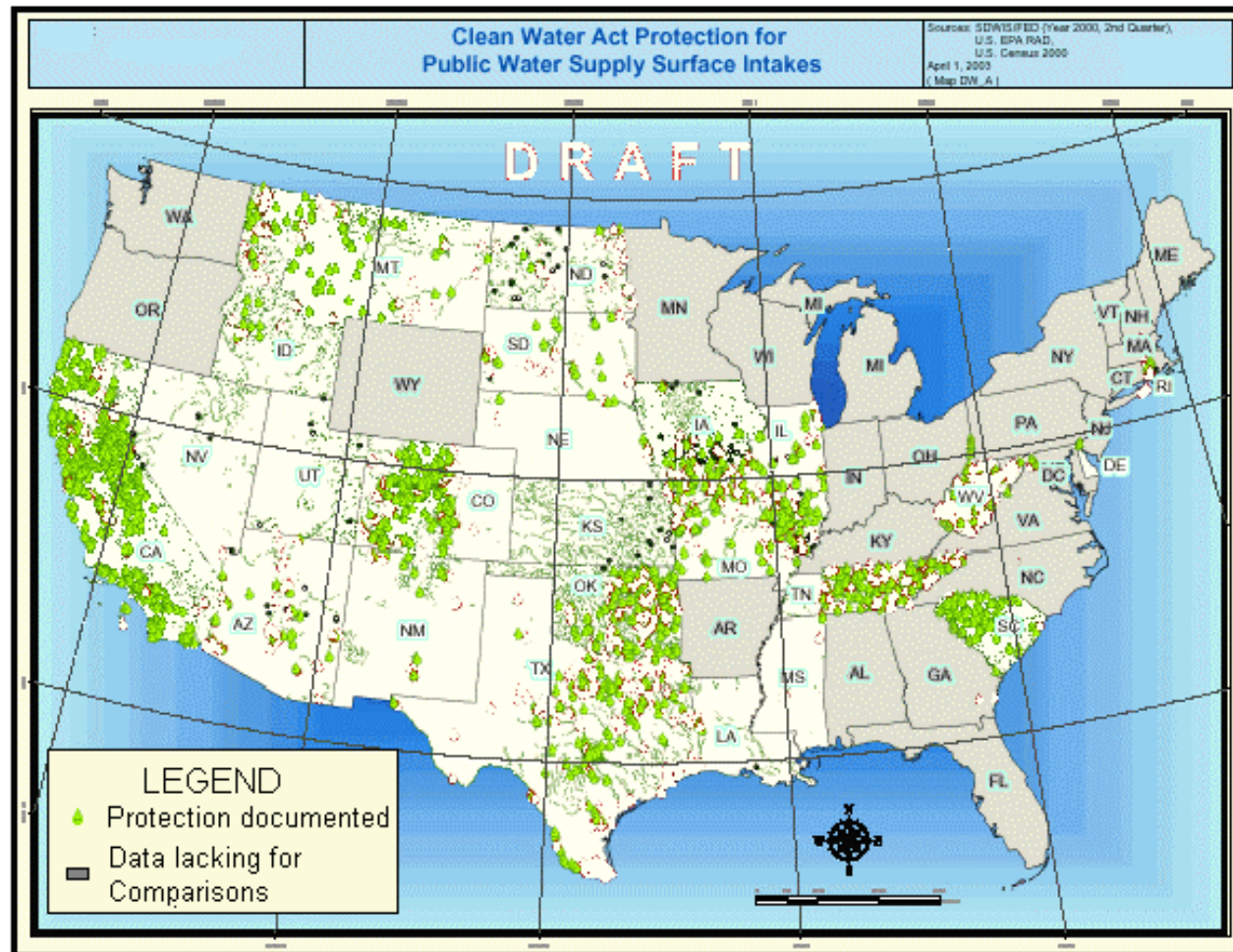
Surface Water CWS -- Example from Illinois

303(d) Listed Lake
List ID: *ILREC2*

Surface Water CWS -- Example from Illinois

PCS Outfalls
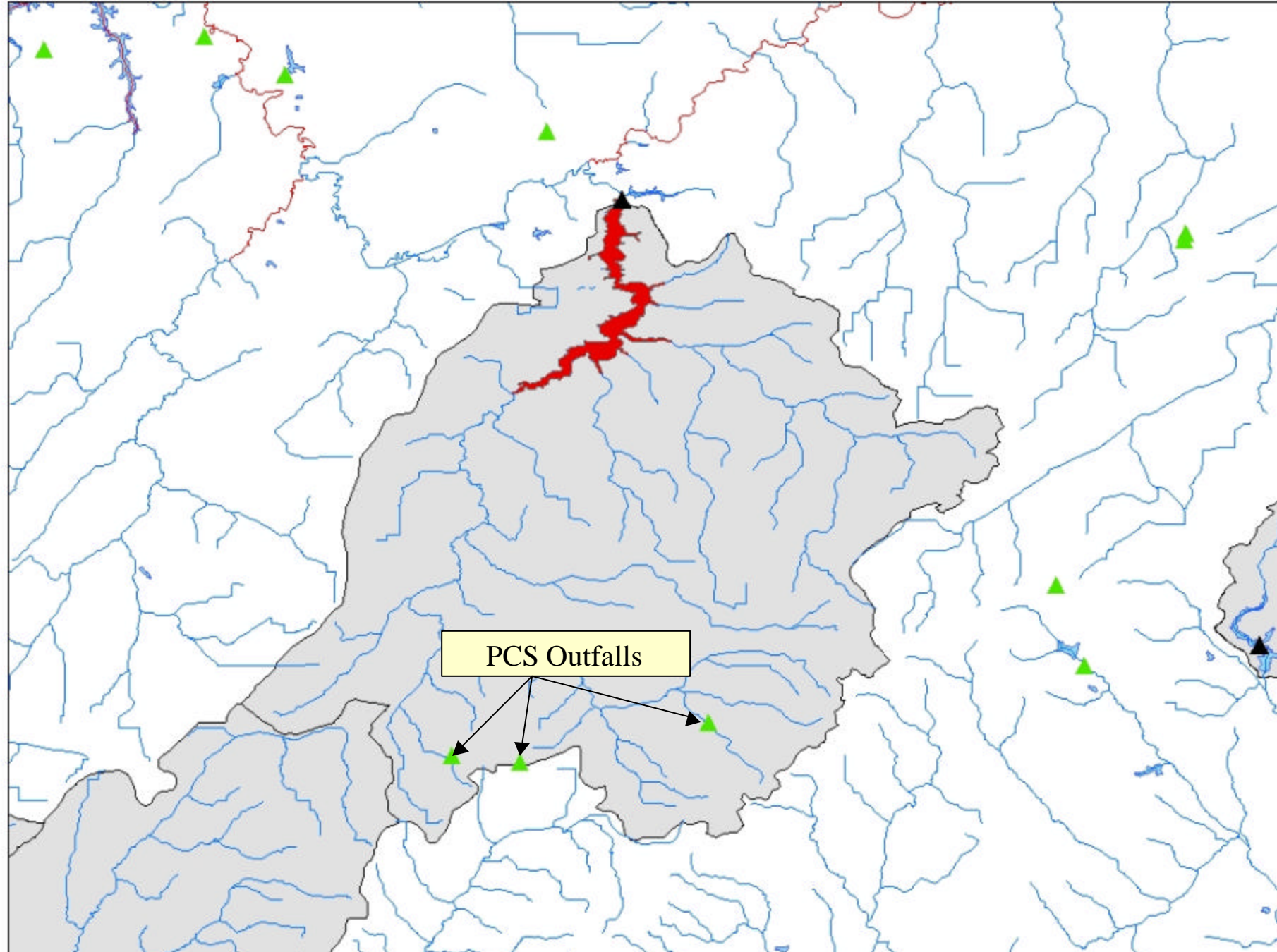
Surface Water CWS -- Example from Illinois

Preliminary national map documenting coordination of CWA and SDWA programs

How Can We Work Together to Improve GIS Use?

- Share GIS Data

- Help EPA Improve Data Used in GIS Aps

- Build GIS Capability

- Collaborate on Program Analyses

Any Questions??

Bill Diamond, Director, EPA Drinking Water Protection Division, Office of Ground Water and Drinking Water

(Email: diamond.bill@epa.gov)

- WATERS (www.epa.gov/waters)